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COLLARD & ROE, P.C. 1077 NORTHERN BOULEVARD ROSLYN, NY 11576			PEREIRO, JORGE ANDRES	
			ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/575,791

Applicant(s)

BIERBAUMER, HANS-PETER

Examiner

JORGE PEREIRO

Art Unit

4147

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 35-67 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 35-63 and 65-67 is/are rejected.
- 7) ☒ Claim(s) 64 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/5508)
Paper No(s)/Mail Date 4/14/2006

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,719,817 B1 to Marin ("Marin") in view of US Patent 6,113,865 to Dammann et al ("Dammann").
3. In re claim 35, with reference to figure 4 below, Marin discloses a gas generator (10) for generating a hydrogen-oxygen mixture or Brown gas with a reaction chamber (referenced in figure 4 below), wherein the reaction chamber is of a rotationally symmetrical shape with respect to an axis, having an inner boundary surfaces (16) and a jacket (14) and wherein a rotor (24) with a rotation axis (36) is provided in the gas generator and the rotation axis is oriented coaxially with the axis of the reaction chamber.

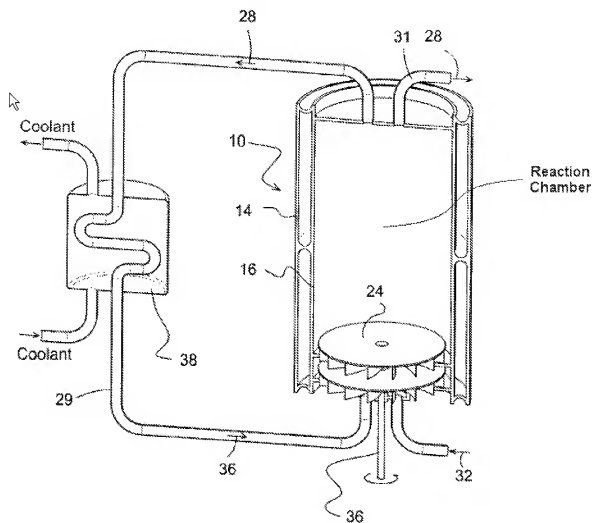


FIG. 4

4. Marin fails to disclose a reaction chamber in which electrodes are disposed, and at least certain regions of the inner boundary surfaces of the reaction chamber in the region of a jacket of the reaction chamber are formed by inner electrode surfaces of the electrodes of the gas generator.

5. However, with reference to figure 3 below, Dammann discloses a reactor configuration for a liquid gasification process with a reaction chamber (referenced as the "spherical chamber" in figure 3 below) that is of a rotationally symmetrical shape with respect to a central axis (referenced as the "center of sphere" in figure 3 below), and at least certain regions of the inner boundary surfaces (referenced as the "inner boundary surface" in figure 3 below) of the reaction chamber in the region of a jacket (referenced as the "jacket" in figure 3 below) of the reaction chamber are formed by inner electrode surfaces of the electrodes (2) of the gas generator.

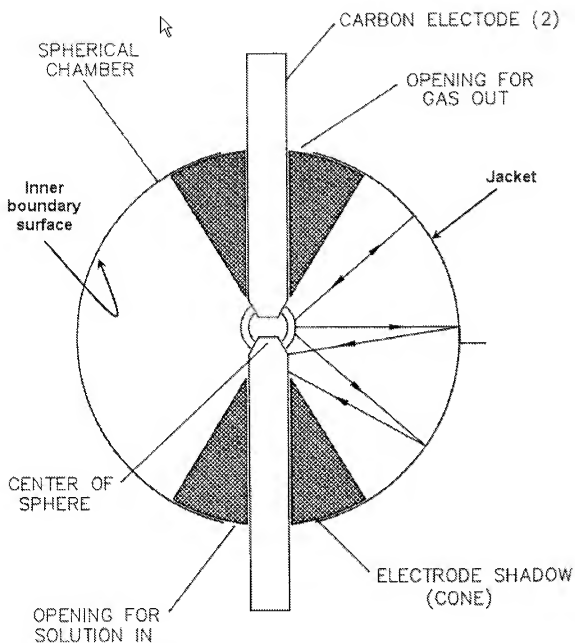


ILLUSTRATION OF DIRECT REFLECTIONS
WITH POINT SOURCE OFF SPHERICAL CENTER

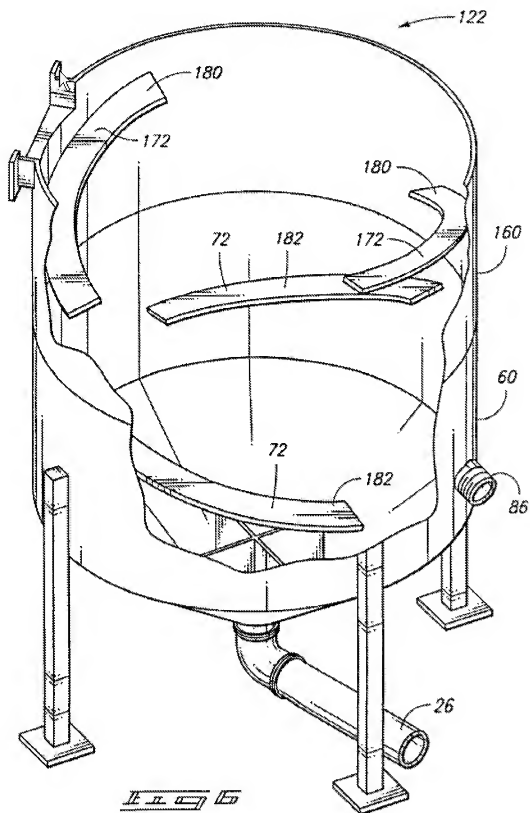
FIG. 3

6. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Marin in view of Dammann to have at least certain regions of the inner boundary surfaces of the reaction chamber in the region of a jacket of the reaction chamber formed by inner electrode surfaces of the electrodes of the gas generator as taught by Dammann in figure 3 above since Dammann shows the electrode(s) extending from the exterior of the chamber through the jacket and inner boundary surface to the center of the chamber for the purpose of enhancing the efficiency of the reaction (see abstract).

7. Claims 36-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marin in view of Dammann as applied to claim 35 above, and further in view of US Patent 6,207,055 B1 to Satterfield et al ("Satterfield").

8. In re claim 36, Marin in view of Dammann discloses all of the claim limitations except for at least one inlet connector for a working medium provided in the jacket, oriented at a tangent with respect to the jacket of the reaction chamber.

9. However, with reference to figure 6 below, Satterfield discloses methods and apparatuses for forming a slurry with at least one inlet connector (86) for a working medium provided in the jacket (60), oriented at a tangent with respect to the jacket of the reaction chamber (122).



10. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Marin in view of Dammann and further in view of Satterfield to have at least one inlet connector for a working medium provided in the jacket, oriented at a tangent with respect to the jacket of the reaction chamber as taught by Satterfield in figure 6 above and as an expedience to provide an input to the device.

11. In re claim 37, Marin in view of Dammann and further in view of Satterfield discloses all of the claim limitations except for disclosing that the rotor is designed to generate a rotation with an angular velocity in the range of from 10 s⁻¹ to 25 s⁻¹.

12. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Marin in view of Dammann and further in view of Satterfield to have a rotor designed to generate a rotation with an angular velocity in the range of from 10 s⁻¹ to 25 s⁻¹, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

13. Claims 38 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marin in view of Dammann as applied to claim 35 above, and further in view of US Patent Publication 2003/0141200 A1 to Harada ("Harada").

14. In re claim 38, Marin in view of Dammann discloses all of the claim limitations except for an outlet orifice provided in a base plate and/or cover plate closing off the reaction chamber and the outlet orifice is disposed coaxially with the axis of the reaction chamber.

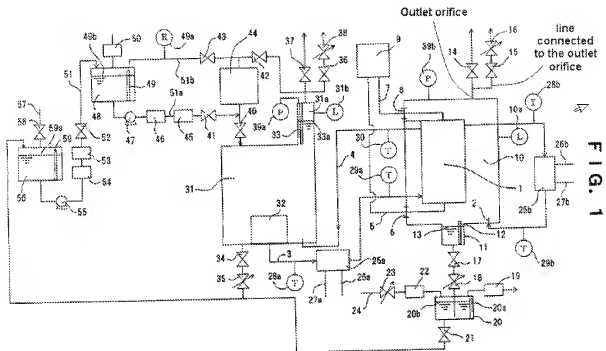
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15. However, with reference to figure 17 below, Harada discloses a system and method for generating high pressure hydrogen where an outlet orifice (538) is provided in a base plate and/or cover plate (502) closing off the reaction chamber (501) and the outlet orifice (538) is disposed coaxially with the axis (B) of the reaction chamber (501).

16. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Marin in view of Dammann and further in view of Harada to include an outlet orifice provided in a base plate and/or cover plate closing off the reaction chamber with the outlet orifice disposed coaxially with the axis of the reaction chamber as taught by Harada in figure 17 above since the spherical shape of the reaction chamber in Harada (and the spherical shape taught by Dammann above) will cause the hydrogen and oxygen gas to pool towards the upper center of the reaction chamber. (See Harada, page 18, paragraph [0258])

17. In re claim 42, Marin in view of Dammann discloses all of the claim limitations except for a throttle valve or a valve disposed in a line connected to the outlet orifice and the reaction chamber is provided in the form of a pressure vessel.

18. However, with reference to figure 1 below, Harada discloses a throttle valve or a valve (15, 16) disposed in a line (referenced in figure 1 below) connected to the outlet orifice (referenced in figure 1 below) and the reaction chamber (10) is provided in the form of a pressure vessel (see page 7, paragraph [0101]).



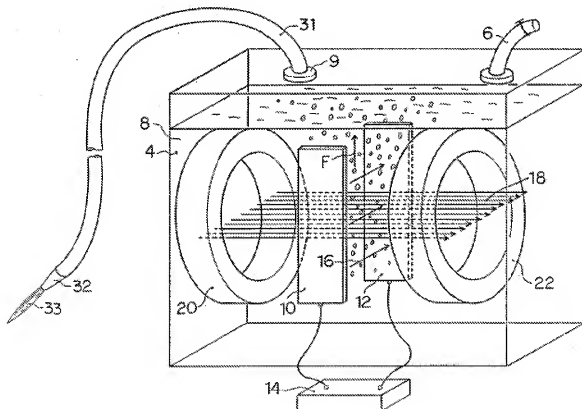
19. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Marin in view of Dammann and further in view of Harada to include a throttle valve or a valve disposed in a line connected to the outlet orifice and the reaction chamber is provided in the form of a pressure vessel as taught by Harada in figure 1 above and as taught by Harada for the purpose of controlling hydrogen flow (see page 9, paragraph [0127]).

20. Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Marin in view of Dammann and Harada as applied to claims 35 and 38 above, and further in view of US Patent 4,747,925 to Hasebe et al ("Hasebe").

21. In re claim 39, Marin in view of Dammann and Harada discloses all of the claim limitations except for an outlet orifice provided in the form of a suction lance which is displaceable parallel with the direction of the axis of the reaction chamber.

22. However, with reference to figure 1 below, Hasebe discloses an apparatus for the simultaneous and continuous generation of oxygen and hydrogen gas with an outlet orifice (9) provided in the form of a suction lance (31) which is displaceable parallel with the direction of the axis (F) of the reaction chamber (4).

FIG. 1



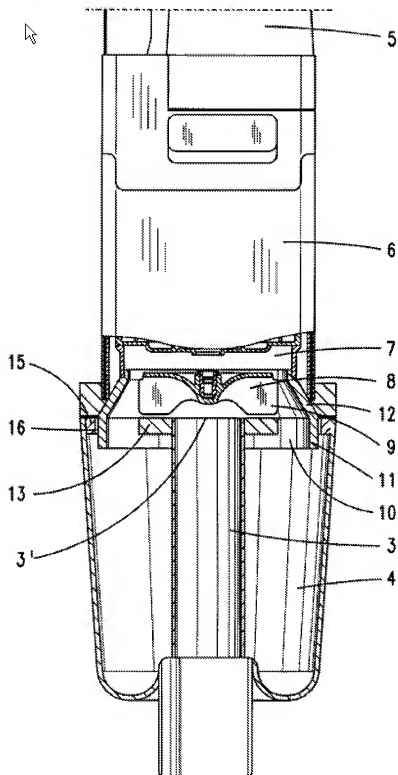
23. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Marin in view of Dammann and Harada and further in view of Hasebe to include an outlet orifice provided in the form of a suction lance which is displaceable parallel with the direction of the axis of the reaction chamber as taught by Hasebe in figure 1 above since Hasebe states at column 5, lines 53-54 that a flexible pipe (31) can be fitted to the outlet (9) therefore making the pipe displaceable in a direction parallel to the axis of the reaction chamber.

24. Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Marin in view of Dammann and Harada as applied to claims 35 and 38 above, and further in view of US Patent 5,914,416 to Thode ("Thode").

25. In re claim 40, Marin in view of Dammann and Harada discloses all of the claim limitations except for an outlet orifice provided in the form of a suction funnel.

26. However, with reference to figure 3 below, Thode discloses a device for separating solid or liquid particles from a stream of gas with an outlet orifice (3') provided in the form of a suction funnel (12).

Fig. 3

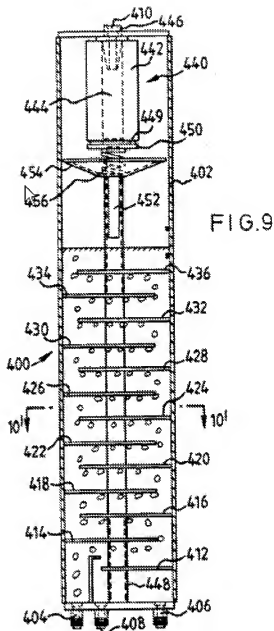


27. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Marin in view of Dammann and Harada and further in view of Thode to include an outlet orifice provided in the form of a suction funnel as taught by Thode in figure 3 above since Thode states at column 2, lines 9-12 that by employing a funnel the formation of induced vortices are minimized which thereby enhances the gas extraction efficiency.

28. Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Marin in view of Dammann, Harada and Hasebe as applied to claims 35 and 38-39 above, and further in view of US Patent 5,082,544 to Willey et al ("Willey").

29. In re claim 41, Marin in view of Dammann, Harada and Hasebe discloses all of the claim limitations except for a phase separation device provided in the suction lance.

30. However, with reference to figure 9 below, Willey discloses an electrolytic gas generating apparatus for producing a combustible mixture of hydrogen and oxygen by electrolysis of water with a phase separation device (440) provided in the suction lance (400).



31. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Marin in view of Dammann, Harada and Hasebe and further in view of Willey to include a phase separation device provided in

the suction lance as taught by Willey for the purpose of improving hydrogen collection (see column 7, lines 40-45).

32. Claims 43-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marin in view of Dammann as applied to claim 35 above, and further in view of US Patent 5,419,877 to Goforth et al ("Goforth").

33. In re claim 43, Marin in view of Dammann discloses all of the claim limitations except for wherein the gas generator is provided with an acoustic source.

34. However, with reference to figure 8 below, Goforth discloses use of the acoustic force for the removal of particles from a high temperature flue gas with the gas generator (referenced as the "separator chamber" in figure 8 below) provided with an acoustic source (104).

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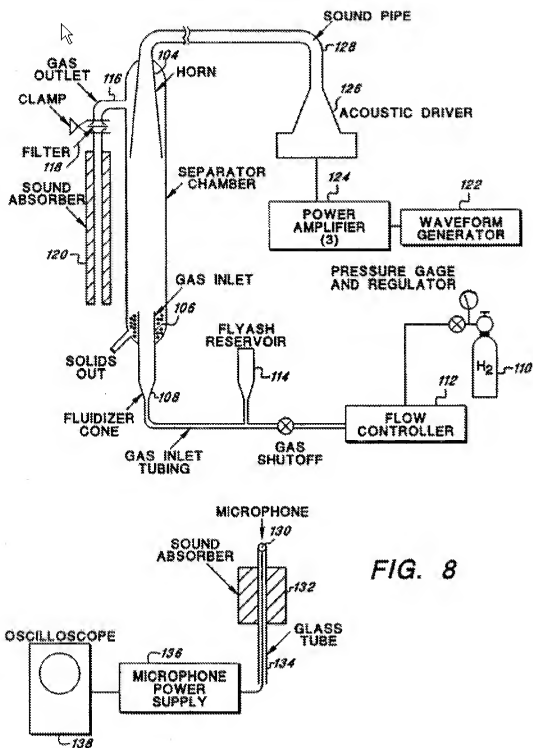


FIG. 8

35. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Marin in view of Dammann and further in view of Goforth to include a gas generator provided with an acoustic source for the purpose of efficiently removing small particulates as taught by Goforth (see fig. 8, column 3, lines 34-35).

36. In re claim 44, Marin in view of Dammann and further in view of Goforth discloses all of the claim limitations except for disclosing that wherein the acoustic source is designed to generate sound at a frequency in a range of from 25 kHz to 55 kHz, preferably from 38.5 kHz to 41.5 kHz, more preferably 40.5 kHz.

37. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Marin in view of Dammann and Seaman and further in view of Goforth to have an acoustic source designed to generate sound at a frequency in a range of from 25 kHz to 55 kHz, preferably from 38.5 kHz to 41.5 kHz, more preferably 40.5 kHz, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

38. In re claim 45, Marin in view of Dammann and Goforth discloses an acoustic source oriented coaxially with the axis of the reaction chamber.

39. In re claim 46, with reference to figure 3 of Dammann above, Marin in view of Dammann and further in view of Goforth as applied to claims 35 and 43 above discloses all of the claim limitations including wherein at least a part-region of the inner boundary surface (referenced as the "inner boundary surface" in figure 3 above) of the reaction

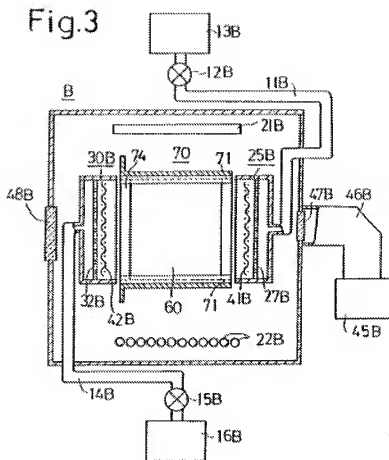
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chamber (referenced as the "spherical chamber" in figure 3 above) is shaped as a reflector due to its spherical shape for concentrating the sound.

40. Claim 47 is rejected under 35 U.S.C. 103(a) as being unpatentable over Marin in view of Dammann as applied to claim 35 above, and further in view of US Patent 4,832,981 to Yamazaki ("Yamazaki").

41. In re claim 47, Marin in view of Dammann discloses all of the claim limitations except for disclosing a gas generator provided with an IR source.

42. However, with reference to figure 3 below, Yamazaki discloses a gas generator (B) with an IR source (21B, 22B).



43. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Marin in view of Dammann and further in view of Yamazaki to include a gas generator provided with an IR source as taught by Yamazaki in figure 3 above since an infrared source through convection is useful in providing heat energy to enhance the movement of water within the generator and thereby enhance the efficiency of the chemical reactions.

44. Claims 48-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marin in view of Dammann as applied to claim 35 above, and further in view of Hasebe.

45. In re claim 48, Marin in view of Dammann discloses all of the claim limitations except for disclosing a gas generator provided with a magnet.

46. However, with reference to figure 1 of Hasebe above, Hasebe discloses gas generator (4) provided with a magnet (20, 22).

47. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Marin in view of Dammann and further in view of Hasebe to include a gas generator provided with a magnet as taught by Hasebe in figure 1 above for the ease of collecting hydrogen since Hasebe states at column 4, lines 22-43 that the magnetic field generates a force according to Fleming's left-hand rule which enables the bubbles of hydrogen to set themselves free from the adhesive force of the surface of the electrodes.

48. In re claim 49, Marin in view of Dammann and Hasebe discloses a magnetic field direction of the magnet in the region of the axis of the reaction chamber oriented anti-parallel with respect to a direction of an angular velocity of the rotor (see Hasebe figure 1).

49. Claim 50 is rejected under 35 U.S.C. 103(a) as being unpatentable over Marin in view of Dammann as applied to claim 35 above, and further in view of US Patent Application Publication 2003/0138688 A1 to Hattori et al ("Hattori").

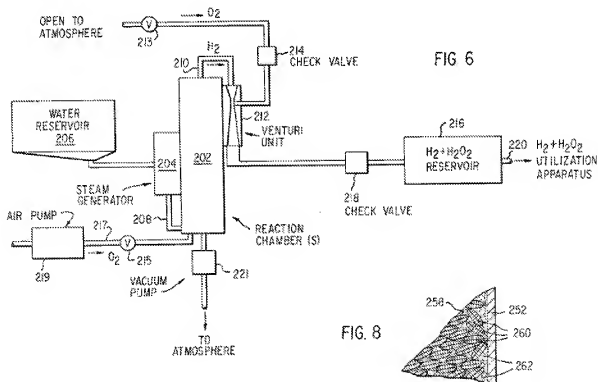
50. In re claim 50, Marin in view of Dammann and Seaman discloses all of the claim limitations except for a pressure vessel provided for the working medium.

51. However, with reference to figure 1 below, Hattori discloses a pressure vessel (52) is provided for the working medium (54).

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54. In re claim 51, Marin in view of Dammann and Hattori discloses all of the claim limitations except for a heat generator and an interior of the heat generator provided with a sintered material.

55. However, with reference to figures 6 and 8 below, Leach discloses a heat generator (202) and an interior of the heat generator (258) is provided with a sintered material (262).



56. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Marin in view of Dammann and Hattori and further in view of Leach to include a heat generator and an interior of the heat generator provided with a sintered material as taught by Leach in figure 8 above since Leach states at column 11, lines 18-30 that in order to expose the sintered material fully to the

space within reaction chamber, this chamber is filled with a large number of hollow stainless steel screen elements.

57. In re claim 52, with reference to figure 1 of Hattori above, Marin in view of Dammann, Hattori and Leach discloses all of the claim limitations including a gas generator (32), the heat generator (30), a heat exchanger (44), the pressure vessel (52) and a pump (51) are connected to one another to form a closed circuit (50) for the working medium (54).

58. In re claim 53, with reference to figure 1 of Hattori above, Marin in view of Dammann, Hattori and Leach discloses all of the claim limitations including a fan (see Hattori page 4, paragraph [0043]) provided on the heat exchanger (46) for feeding heat away from the heat exchanger (46).

59. Claims 54-55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marin in view of Dammann as applied to claim 35 above, and further in view of US Patent Application Publication 2003/0138688 A1 to Hattori et al ("Hattori").

60. In re claim 54, with reference to figure 1 of Hattori above, Marin in view of Dammann and further in view of Hattori discloses all of the claim limitations including a control system (60) provided for controlling the operating mode.

61. In re claim 55, Marin in view of Dammann and further in view of Hattori discloses all of the claim limitations including a control system (60) designed to run an automatic control. (See Hattori page 2, last sentence of paragraph [0032] which states that the electronic control unit controls the entire system.)

Method Claims

62. In re Claim 56, Marin in view of Dammann and Hattori as applied to the apparatus claims above have disclosed a method of converting energy using a hydrogen-oxygen mixture or Brown gas, wherein a working medium or water is fed into a reaction chamber of a rotationally symmetrical shape with respect to an axis, and an electric field is applied between electrodes, and an electric field direction is oriented perpendicular to the axis of the reaction chamber and the water is displaced in rotation, and a rotation axis of the water is oriented coaxially with the axis of the reaction chamber and the hydrogen-oxygen mixture or Brown gas formed in the region of the axis of the reaction chamber is fed out of the reaction chamber and the hydrogen-oxygen mixture or Brown gas is recombined to form water because under the principal of inherency, if a prior art device, in its normal and usual operation, would necessarily perform the method claims, then the method claimed will be considered to be anticipated by the prior art device. When the prior art device is the same as a device described in the specification for carrying out the claimed method, it can be assumed the device will inherently perform the claimed process. *In re King*, 801 F.2d 1324, 231 MPEP 2112.02

63. In re claim 57, Marin in view of Dammann, Hattori and Hasebe as applied to the apparatus claims above have disclosed the method of claim 56 and wherein the water and/or Brown gas in the reaction chamber is exposed to a magnetic field, and a magnetic induction in the region of the axis of the reaction chamber is oriented anti-

parallel with respect to the direction of the angular velocity under the principal of inherency as stated in re claim 56 above.

64. In re claim 58, Marin in view of Dammann, Hattori and Goforth as applied to the apparatus claims above have disclosed the method of claim 56 and wherein the water and/or Brown gas is exposed to acoustic energy in the reaction chamber under the principal of inherency as stated in re claim 56 above.

65. In re claim 59, Marin in view of Dammann, Hattori and Yamazaki as applied to the apparatus claims above have disclosed the method of claim 56 and wherein the water and/or Brown gas is exposed to IR radiation in the reaction chamber under the principal of inherency as stated in re claim 56 above.

66. In re claim 60, Marin in view of Dammann and Hattori as applied to the apparatus claims above have disclosed the method of claim 56 and wherein the water and Brown gas are conveyed in a closed circuit under the principal of inherency as stated in re claim 56 above.

67. In re claim 61, Marin in view of Dammann and Hattori as applied to the apparatus claims above have disclosed the method of claim 56 and wherein an angular velocity of the rotation of the water in the reaction chamber is periodically varied under the principal of inherency as stated in re claim 56 above.

68. In re claim 62, Marin in view of Dammann and Hattori as applied to the apparatus claims above have disclosed the method of claim 56 and wherein a pressure of the working medium in the circuit is periodically varied under the principal of inherency as stated in re claim 56 above.

69. In re claim 63, Marin in view of Dammann and Hattori and Goforth as applied to the apparatus claims above have disclosed the method of claim 56 and wherein an acoustic intensity of an acoustic source in the reaction chamber is periodically varied under the principal of inherency as stated in re claim 56 above.

70. In re claim 65, Marin in view of Dammann, Hattori and Goforth as applied to the apparatus claims above have disclosed the method of claim 56 and wherein the value of a frequency of the periodic variation in the pressure of the working medium and/or the acoustic intensity of the acoustic source and/or the angular velocity is selected from a range of between 0.1 Hz and 10 Hz because it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

71. In re claim 66, Marin in view of Dammann and Hattori as applied to the apparatus claims above have disclosed the method of claim 56 and wherein the recombination of the hydrogen-oxygen mixture or Brown gas takes place in a heat generator and the heat generated as a result is fed away with the water under the principal of inherency as stated in re claim 56 above.

72. In re claim 67, Marin in view of Dammann and Hattori and Leach as applied to the apparatus claims above have disclosed the method of claim 56 and wherein the Brown gas is fed through a sintered material in the heat generator under the principal of inherency as stated in re claim 56 above.

Allowable Subject Matter

73. Claim 64 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

74. The following is a statement of reasons for the indication of allowable subject matter: The specific limitation of "the periodic variation in the pressure of the working medium takes place in an opposite phase from the periodic variation of the acoustic intensity of the acoustic source" in the combination as claimed in claim 64 is not anticipated or made obvious by the prior art of record in the examiner's opinion. The prior art fails to teach or suggest the specific limitation of an opposite phase relationship between the working medium pressure and the acoustic intensity.

Conclusion

75. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patent Publication Application 2005/0098443 A1 to Gomez discloses commercial production of electrolytic hydrogen. US Patent 5,882,502 to Gomez discloses an electrochemical apparatus and system. US Patent 4,699,700 to Dhooge discloses a method for hydrogen production. US Patent 4,182,662 to Hart discloses a method of forming hydrogen by electrolysis. US Patent 6,488,401 B1 to Seaman discloses a tank agitator. US Patent 6,485,452 B1 to French et al discloses a suction/irrigation tip. US Patent 6,328,861 B1 to Yoshida et al discloses an electrolytic

apparatus. US Patent 6,221,117 B1 to Edlund et al discloses a steam reformer adapted to produce hydrogen from a feedstock consisting of water. US Patent 5,718,819 to Peschka et al discloses a process for the electrolysis of a fluid. US Patent 5,614,001 to Kosaka et al discloses a hydrogen separator. US Patent 5,507,946 to Stearns discloses a process for treating wastewater in a vessel having an impeller therein. US Patent 5,229,977 to Owen discloses an apparatus for and the use of a closed-cycle chemical combustion process as the means for producing accurately controlled and repeatable high-power, low-frequency, underwater sound pulses. US Patent 5,159,900 to Dammann discloses a method and means of generating gas from water. US Patent 5,037,518 to Young et al discloses an apparatus and method for generating hydrogen and oxygen by electrolytic dissociation of water. US Patent 4,613,304 to Meyer discloses a hydrogen gas generator system for converting water into hydrogen and oxygen gasses. US Patent 4,530,744 to Smith discloses a method and apparatus for producing liquid hydrogen in which water is electrolyzed under pressure to generate separate streams of oxygen and hydrogen. US Patent 3,969,214 to Harris a generating cell for hydrogen and oxygen utilizes permanent magnets and electromagnets.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JORGE PEREIRO whose telephone number is (571) 270-3932. The examiner can normally be reached on Mon.-Fri. 9:00 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Nguyen can be reached on 571-272-4491. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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